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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/872,292	06/01/2001	Delmur R. Mayhak JR.	40134.1USU1	9208

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MERCHANT & GOULD PC
P.O. BOX 2903
MINNEAPOLIS, MN 55402-0903

EXAMINER

BOYCE, ANDRE D

ART UNIT	PAPER NUMBER
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3623

DATE MAILED: 10/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/872,292	Applicant(s) MAYHAK ET AL.	
	Examiner Andre Boyce	Art Unit 3623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12,14,16,17 and 19-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12,14,16,17 and 19-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on August 7, 2006 has been entered.
2. Claims 1, 16, 19 and 25 have been amended. Claims 13, 15 and 18 have been canceled. Claims 1-12, 14, 16, 17 and 19-26 are pending.
3. The previously pending objections to claims 13, 15 and 18 have been withdrawn.

Claim Rejections - 35 USC § 102

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
5. Claims 1-4, 6, 7, 9-12, 16, 17 and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by Hirsch et al (WO 97/25682).

As per claim 1, Hirsch et al disclose a method of scheduling a plurality of patients and a plurality of employees in a health care environment (i.e., dedicated management system that schedules and optimizes utilization of operating room suite

resources, pg 7, lines 26-29), wherein at least two patients receive treatment during a predetermined time period (figure 12), said scheduling method comprising: for each patient, evaluating patient care requirements (i.e., patient record including proposed medical procedure, pg 15, lines 26-29), wherein the patient care requirements correspond to actual employee time requirements necessary to satisfy the patient care requirements (i.e., procedures listing screen, including average time, figure 7) and wherein the evaluating patient care requirements include whether such patient care requirements are not needed, temporary or permanent (i.e., determination of the type of procedure, wherein an out patient procedure is temporary care, figure 11, and the ability to delete a procedure not needed for a particular patient, figure 7); in response to the patient care requirement evaluation, adjusting scheduling time throughout a predetermined time period (i.e., cases which already exist for a particular day can easily be rescheduled by dragging the line to a different calendar date, page 18, lines 24-26) and scheduling employees in response to the distributed employee time requirements (i.e., surgeon selects time interval for starting procedure, while providing the scheduling system sufficient latitude to optimize the resulting schedule, pg 15, lines 21-23).

As per claim 2, Hirsch et al disclose the predetermined time period is a day (pg 14, line 10), the method further comprising: dividing the day into intervals (i.e., divides the day into a small number of multi-hour periods, pg 14, lines 10-11); and in evaluating the patient care requirements, determining the patient care requirements

on a per-interval basis (i.e., system preferences allow a surgeon to select a time interval for starting a procedure, pg 15, lines 21-23).

As per claim 3, Hirsch et al disclose the patient care requirements are averaged over more than one interval (i.e., average times to perform procedures are calculated and stored, pg 16, lines 25-27).

As per claim 4, Hirsch et al disclose a plurality of job types for an employee are predetermined (i.e., staff record, figure 8), each job type having a different patient care capability value associated with each job type (i.e., service code and roles, including hierarchy #, figure 1) and wherein the method further comprises: scheduling shifts of employees based on job type; scheduling employees based on scheduled job type (i.e., feasible schedules determined by the system, figure 13).

As per claim 6, Hirsch et al disclose each employee has a predetermined patient care capability (i.e., service title and procedures performed, figure 8) and wherein the method further comprises scheduling employees in relation to patient care capability (i.e., service code and role for a particular case/procedure, figure 1).

As per claim 7, Hirsch et al disclose the patient care capability relates to indirect and direct patient care activities (i.e., pre-op information, figure 11).

As per claim 9, Hirsch et al disclose dividing the predetermined time into intervals (i.e., divides the day into a small number of multi-hour periods, pg 14, lines 10-11); and displaying a plurality of patient schedules in relation to time to provide a visual indication of the patient care requirements for each interval (figure 12).

As per claim 10, Hirsch et al disclose calculating patient requirement values (i.e., average time to perform procedure, pg 16, lines 24-27) for an employee (i.e., surgeon) based on the patient care requirements for a plurality of intervals (i.e., average time to perform) and displaying the calculated values (figure 7).

As per claim 11, Hirsch et al disclose displaying employee shift information in relation to time (i.e., surgery start and surgeon) to provide a visual indication of scheduled employee information in relation to scheduled patient information (figure 12).

As per claim 12, Hirsch et al disclose calculating a total value of employee time for each interval; displaying the calculated employee values (i.e., estimated length of scheduling, figure 11), and comparing patient requirement values and employee values for each interval to determine efficiency (i.e., scheduling via the system to increase utilization rate, based upon scheduling of staff, pg 20, lines 5-10).

As per claim 16, Hirsch et al disclose a method of scheduling employees in a health care environment (i.e., dedicated management system that schedules and optimizes utilization of operating room suite resources, pg 7, lines 26-29) comprising: compiling a plurality of patient profiles, each profile associated with a different patient (i.e., patient record, pg 15, lines 26-29), and wherein each profile comprises information related to the direct patient care needs of the associated patient (i.e., patient record including proposed medical procedure, pg 15, lines 26-29); compiling a plurality of employee profiles, each profile associated with a different employee (i.e., staff record, figure 8) and wherein each profile comprises information related to the

patient care capability of the associated employee (i.e., service title and procedures performed, figure 8); automatically evaluating each patient profile and each employee profile and creating an employee schedule based on the evaluation (i.e., the employee schedule as seen in figure 12 is created based on the evaluation of patient procedure and surgeon inputs into the optimization model, figure 13); calculating scheduling efficiency information relating to a generated schedule of patients and employees based on the patient profiles and employee profiles (i.e., obtaining a tractable set of feasible schedules, which are targets of optimization, pg 19, lines 22-23 and figure 13); and adjusting the schedule to generate a more efficient schedule (i.e., optimization of schedule, figure 13).

As per claim 17, Hirsch et al disclose compiling facility information, the facility providing the health-care environment (i.e., operating room input, figure 4), and wherein the facility information relates to the limitations of the facility (i.e., minimum operation times, default setup, cleanup, and roundup times, pg 16, lines 12-14); and calculating facility efficiency information in relation to the facility information and the scheduling information (i.e., utilization rate, figure 14).

As per claim 25, Hirsch et al disclose a graphical user interface for a computer system, the graphical user interface having a display module for displaying information (i.e., GUI for the scheduling system, figures 1-6), said graphical user interface comprising: a patient schedule portion (i.e., patient input screen, figure 2), the patient schedule portion logically divided into intervals and displaying patient schedule information related to the intervals (i.e., patient procedure schedule, figure

12); an employee schedule portion logically divided into intervals, wherein the intervals for the patient schedule portion correspond to the intervals for the employee information portion (i.e., time slot preferences, figure 1); and a calculation display area for displaying calculated values within each interval, the calculated values relating to temporary or permanent patient care requirements and employee capabilities for each interval (i.e., calculation of average time to perform a procedure, pg 16, lines 25-27 and average time of an average surgeon to complete procedure, pg 16, lines 25-27) based on the employee's direct care and indirect care tasks during the time interval (i.e., optimization factors and constraints including an interaction factor among surgeons, patients, anesthesiologists, CRNAs, RNs, Techs, etc., thus including both direct and indirect care tasks, page 11, lines 12-15), whereby the calculation display area provides efficiency information (figure 14).

Claim Rejections - 35 USC § 103

6. Claims 5, 8, 14, 19-24 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirsch et al (WO 97/25682), in view of Rosse (USPN 6,640,212).

As per claim 5, Hirsch et al does not explicitly disclose the patient care capability value is averaged over an entire shift. Rosse discloses assigning staff schedules, wherein the selected staff for a specific assignment includes the percent of shift assigned (i.e., the capability of assigned staff over entire shift, figure 15). Both Hirsch et al and Rosse are concerned with healthcare management, therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made

to include patient care capability value is averaged over an entire shift in Hirsch et al, as seen in Rosse, as an effective means of determining the availability of the staff member in terms of percent of shift assigned, thus making the Hirsch et al system more efficient in determining surgeon availability.

As per claim 8, Hirsch et al does not disclose each employee further has a predetermined non-patient care capability relating to performing non-patient care activities, and wherein the method further comprises: calculating a staff efficiency valued based on scheduled activities, wherein the activities relate to patient care and non-patient care activities. Rosse discloses non-client duties that do not involve patient participation (column 8, lines 11-14). Further, Rosse discloses the percent of shift assigned, which includes both client and non-client duties (figure 15). Both Hirsch et al and Rosse are concerned with healthcare management, therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to include calculating a staff efficiency value based on scheduled activities, wherein the activities relate to patient care and non-patient care activities in Hirsch et al, as seen in Rosse, as an effective means of determining the efficiency of the staff members in terms of percent of shift assigned, thus making the Hirsch et al system more effective in determining surgeon availability during a shift.

As per claim 14, Hirsch et al does not disclose staggering the start time of at least two patients to allow one employee to substantially service the needs of the at least two patients. Rosse discloses pairing the duties corresponding

to client activities with available and qualified staff members (column 10, lines 56-58), wherein duties include the staff helping the client with grooming, wherein multiple clients may be helped simultaneously (figure 16). Both Hirsch et al and Rosse are concerned with healthcare management, therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to include substantially servicing the needs of the at least two patients in Hirsch et al, as seen in Rosse, thereby utilizing the staff more effectively, thus improving the overall efficiency of the Hirsch et al system.

As per claim 19, Hirsch et al disclose a system for scheduling employees in a health care environment (i.e., dedicated management system that schedules and optimizes utilization of operating room suite resources, pg 7, lines 26-29) comprising: a memory store for storing patient information related to the needs of a plurality of patients (i.e., patient record, figure 2), resource information and employee information related to patient care capability of a plurality of patients (i.e., operating room information and staff member records, figures 4 and 8); a scheduling module that schedules patients and employees according to patient needs (i.e., optimization engine conducts two-phase optimal scheduling, pg 10, lines 26-30), and a display unit for displaying the scheduled patient information in combination with scheduled employee information (figure 12), the display providing efficiency information (figure 14). Hirsch et al does not explicitly disclose wherein the scheduling module rounds up an amount of employees scheduled when a determination by the scheduling

module results in a fractional number of employees needed to address the needs of the plurality of patients. Rosse discloses the master scheduler providing organization and design assistance for setting up staffing requirements routine and daily staff scheduling (column 7, lines 6-9). Both Hirsch et al and Rosse are concerned with healthcare management, therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to include setting up staffing requirements in Hirsch et al, as seen in Rosse, thereby utilizing the staff more effectively, thus improving the overall efficiency of the Hirsch et al system.

As per claim 20, Hirsch et al disclose the scheduling module further calculates the needs of each patient based on a per-interval basis (i.e., calculation of average time to perform a procedure, pg 16, lines 25-27) and for calculating the employee capability on a per interval basis (i.e., average time of an average surgeon to complete procedure, pg 16, lines 25-27).

As per claim 21, Hirsch et al disclose the calculated needs of the employees and patients are displayed on the display unit (figure 6).

As per claim 22, Hirsch et al does not disclose scheduling module further calculates a comparison value related to patient requirements and employee capabilities for each interval, said comparison values displayed on the display unit. Rosse discloses pairing the duties corresponding to client activities with available and qualified staff members (column 10, lines 56-58), wherein a duty contains all the documents, staff qualifications, and/or training requirements, and corresponding category value (figure 11). Both Hirsch et al and Rosse are concerned with

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healthcare management, therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to include a comparison value related to patient requirements and employee capabilities for each interval in Hirsch et al, as seen in Rosse, as an efficient means of determining qualified staff, making the Hirsch et al system more robust.

As per claims 23 and 24, Hirsch et al does not disclose the calculated values are automatically updated and displayed following a modification to the patient/employee schedule information. Rosse discloses duty reassignment and assignment revisions, which allow modifications to staff and client schedules (column 12, lines 57-63 and column 13, lines 65-67). Both Hirsch et al and Rosse are concerned with healthcare management, therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to include calculated values are automatically updated and displayed following a modification to the patient/employee schedule information in Hirsch et al, as seen in Rosse, as an effective means of making modifications, in order to better serve the patient in the Hirsch et al system.

Claim 26 is rejected based upon the rejection of claims 23 and 24, since it is the interface claim corresponding to the system claims.

Response to Arguments

7. In the Remarks, Applicant argues, with respect to claim 1, that Hirsch et al and Rosse fail to disclose a not needed patient care requirement, and in response to the patient care requirement evaluation, adjusting scheduling time of at least one

patient. The Examiner respectfully disagrees. Hirsch et al disclose modifying a patient record, including the ability to delete a procedure not needed for a particular patient (figure 7 and page 17, lines 1-6), thus indeed disclosing a not needed patient care requirement. In addition, Hirsch et al discloses cases which already exist for a particular day can easily be rescheduled by dragging the line to a different calendar date (page 18, lines 24-26), thus indeed disclosing in response to the patient care requirement evaluation, adjusting scheduling time of at least one patient.

With respect to claim 16, Applicant argues that Hirsch et al fails to disclose automatically evaluating each patient profile and each employee profile and creating an employee schedule based on the evaluation. The Examiner respectfully disagrees and submits that Hirsch et al disclose the employee schedule, as seen in figure 12, is created based on the evaluation of patient procedure and surgeon inputs into the optimization model (figure 13). In addition, Applicant argues that Hirsch et al fails to disclose calculating scheduling efficiency information relating to a generated schedule of patients and employees based on the patient profiles and employee profiles. The Examiner respectfully disagrees and submits that Hirsch et al disclose obtaining a tractable set of feasible schedules, which are targets of optimization (pg 19, lines 22-23 and figure 13). Moreover, Hirsch et al discloses making the most efficient use of resources, including staff and equipment (page 12, lines 9-11).

With respect to claim 19, Applicant argues that Hirsch et al and Rosse fail to disclose the scheduling module rounds up an amount of employees scheduled when a determination by the scheduling module results in a fractional number of

employees needed to address the needs of the plurality of patients. The Examiner submits that Rosse discloses the master scheduler providing organization and design assistance for setting up staffing requirements routine and daily staff scheduling (column 7, lines 6-9).

With respect to claim 25, Applicant argues that Hirsch et al and Rosse fail to disclose a calculation display area for displaying calculated values within each interval, the calculated values relating to temporary or permanent patient care requirements and employee capabilities for each interval based on the employee's direct care and indirect care tasks during the time interval. The Examiner respectfully disagrees and submits that Hirsch et al disclose calculation of average time to perform a procedure, and average time of an average surgeon to complete procedure (pg 16, lines 25-27). Moreover, Hirsch et al disclose optimization factors and constraints including an interaction factor among surgeons, patients, anesthesiologists, CRNAs, RNs, Techs, etc., thus including both direct and indirect care tasks (page 11, lines 12-15).

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andre Boyce whose telephone number is (571) 272-6726. The examiner can normally be reached on 9:30-6pm M-F.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tariq Hafiz can be reached on (571) 272-6729. The fax phone number

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for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

adb
October 14, 2006


ANDRE BOYCE
PATENT EXAMINER
AU 3623